

Translation

PATENT COOPERATION TREATY

PCT

10/031,900 3

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

| | | |
|--|---|---|
| Applicant's or agent's file reference P 19377 | FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416) | |
| International application No. PCT/DE00/02398 | International filing date (day/month/year) 21 July 2000 (21.07.00) | Priority date (day/month/year) 21 July 1999 (21.07.99) |
| International Patent Classification (IPC) or national classification and IPC G02B 26/02 | | |
| Applicant SCC SPECIAL COMMUNICATION CABLES GMBH & CO KG | | |

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|---|---|
| 1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36. | |
| 2. This REPORT consists of a total of <u>5</u> sheets, including this cover sheet. | |
| <input checked="" type="checkbox"/> This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT). | |
| These annexes consist of a total of <u>3</u> sheets. | |
| 3. This report contains indications relating to the following items: | |
| I | <input checked="" type="checkbox"/> Basis of the report |
| II | <input type="checkbox"/> Priority |
| III | <input type="checkbox"/> Non-establishment of opinion with regard to novelty, inventive step and industrial applicability |
| IV | <input type="checkbox"/> Lack of unity of invention |
| V | <input checked="" type="checkbox"/> Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement |
| VI | <input type="checkbox"/> Certain documents cited |
| VII | <input checked="" type="checkbox"/> Certain defects in the international application |
| VIII | <input checked="" type="checkbox"/> Certain observations on the international application |

| | |
|---|---|
| Date of submission of the demand 21 February 2001 (21.02.01) | Date of completion of this report 14 September 2001 (14.09.2001) |
| Name and mailing address of the IPEA/EP | Authorized officer |
| Facsimile No. | Telephone No. |

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/DE00/02398

I. Basis of the report

1. With regard to the **elements** of the international application:*

- ☐ the international application as originally filed
- ☒ the description:
pages _____ 1-8 _____, as originally filed
pages _____, filed with the demand
pages _____, filed with the letter of _____
- ☒ the claims:
pages _____, as originally filed
pages _____, as amended (together with any statement under Article 19
pages _____, filed with the demand
pages _____ 1-10 _____, filed with the letter of _____ 22 June 2001 (22.06.2001)
- ☒ the drawings:
pages _____ 1/3-3/3 _____, as originally filed
pages _____, filed with the demand
pages _____, filed with the letter of _____
- ☐ the sequence listing part of the description:
pages _____, as originally filed
pages _____, filed with the demand
pages _____, filed with the letter of _____

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language _____ which is:

- ☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of the translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages _____
- ☐ the claims, Nos. _____
- ☐ the drawings, sheets/fig _____

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).**

* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rule 70.16 and 70.17).

** Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.

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V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

| | | | |
|-------------------------------|--------|------|-----|
| Novelty (N) | Claims | 1-10 | YES |
| | Claims | | NO |
| Inventive step (IS) | Claims | 1-10 | YES |
| | Claims | | NO |
| Industrial applicability (IA) | Claims | 1-10 | YES |
| | Claims | | NO |

2. Citations and explanations

1. This report makes reference to the following search report citations:

D1: PATENT ABSTRACTS OF JAPAN Volume 013, No. 242
(P-880), 7 June 1989 and JP-A-01 044 909
(FURUKAWA ELECTRIC CO LTD: THE), 17 February 1989

D2: PATENT ABSTRACTS OF JAPAN Volume 013, No. 131 (P-850), 31 March 1989 and JP-A-63 301 918
(NIPPON TELEGR & TELEPH CORP), 8 December 1988

D3: WO-A-98/13718 (BAYERSDORFER BERNHARD; HEISE GERHARD (DE); ALBRECHT HELMUT (DE); M) 2 April 1998, mentioned in the application

D4: DE-A-37 16 836 (TELEFONBAU & NORMALZEIT GMBH) 1 December 1988

D5: DE-A-196 35 023 (SPINNER GMBH ELEKTROTECH) 6 March 1997.

2. Claim 1 is directed at an optical coupling device for coupling light between two optical waveguides that alters the position of the two optical waveguide end faces relative to each other using an element whose length can be altered.

- 2.1 Document D3 represents the closest prior art. Although this document (see Figure 1 and 2) also has an element (7) whose length can be altered, it is not guided in the direction of its longitudinal axis by means of a retaining element nor is it supported on the second optical waveguide (3). Furthermore, no additional ferrule is defined alongside the second retaining element (6). In the embodiments according to Figures 3 or 4 of the same document, in which the cover plate (14) can be defined as a second retaining element, the element whose length can be altered (7) is not guided therethrough in such a manner that it can only be extended in the direction of its longitudinal axis.

The coupling device according to Claim 1 is therefore not regarded as novel (PCT Article 33(2)).

- 2.2 A guide for the element whose length can be altered is not shown in D2, D4 or D5; therefore, these documents are less relevant.

Although D1 describes such a linear guide in an optical switch (see the two pinholes 16 in each of which a pin 13 is moved), the element whose length can be altered (spring 21) is not supported on the second optical waveguide (17): the ferrule (11) and the pins (13) only support this spring to prevent a crosswise displacement in the lengthwise direction of the pinholes, said displacement being, however, parallel to the optical waveguide end faces.

A combination of D1 and D3 does not appear to be obvious (cf. PCT Article 33(3)) because too many modifications would be required to arrive at a coupling device according to Claim 1.

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VII. Certain defects in the international application

The following defects in the form or contents of the international application have been noted:

The description is not consistent with the amended claims (PCT Rule 5.1(a)(iii)). Accordingly, the feature described on page 2 in lines 27-31 does not only appear to be optional but rather necessary; this feature is now included in Claim 1.

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VIII. Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

The embodiment described on page 7, line 23 to page 8, line 3 and in Figure 7A-B is not covered by the present claims because no linear guide device for extension appears to be present in this example. The second retaining element (counter flange 92) serves only to adjust, via the spring (96) and adjusting screw (100), the position of the element (86) whose length can be altered. This contradiction between the claims and the description leads to doubt as to the subject matter for which protection is sought; thus, the claims lack clarity (PCT Art. 6).